AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph commencing on page 11, line 8 as follows:

$$s = d_0C_0 \wedge d_1C_1 \wedge d_2C_2 \wedge d_3C_3 \wedge d_4C_4 \wedge d_5C_5 \wedge [[d_6C_6]]\ \underline{d_6M_1} \wedge [[d_7C_7]]\ \underline{d_7M_2} \wedge [[d_8C_8]]\ \underline{d_8M_3} \wedge [[d_9C_9]]\ \underline{d_9M_4} \quad (1)$$

Please amend the paragraph commencing on page 14, line 1 as follows:

$$d_0C_0 \wedge d_1C_1 \wedge d_2C_2 \wedge d_3C_3 \wedge d_4C_4 \wedge d_5C_5 \wedge [[d_6C_6]]\ \underline{d_6M_1} \wedge [[d_7C_7]]\ \underline{d_7M_2} \wedge [[d_8C_8]]\ \underline{d_8M_3} \wedge [[d_9C_9]]\ \underline{d_9M_4} \wedge e \quad (2)$$

Please amend the paragraph commencing on page 21, line 5 as follows:

As mentioned above, according to the present embodiment, a processing of Reed-Muller decoding by majority decision with the mask symbols removed from a Reed-Muller code using mask symbols, Reed-Muller coding the sum of this decoding result and the mask symbols, and calculating the Euclidean distance between this coded output and the original code is repeated for the number of times as the number of mask ~~symbols~~ patterns, mask symbols corresponding to the minimum distance are determined. The information data are decoded by using these mask symbols. Therefore, the number of checksums to be calculated for the majority decision does not

increase compared to the case of Reed-Muller code decoding without using mask symbols. Consequently, a decoding apparatus that can reduce the operation load and the hardware scale can be supplied.

Please amend the paragraph commencing on page 22, line 25 as follows:

The Reed-Muller code is stored in the memory 40. The combinations of checksums are determined according to the kind of the Reed-Muller code, and exclusive ORs of the combinations according to this are obtained by the exclusive OR circuit 42. For example, 80 checksums are calculated for (32, 6) Reed-Muller code, while only 32 checksums are calculated for (16, 5) Reed-Muller code. The outputs from the exclusive OR circuits 42 are selected by the checksum selector [[46]] 44 for which bit to be used as code, accumulatively added by the accumulator 46, and the bit is decided by the decision device 48.

Please amend the paragraph commencing on page 29, line 8 as follows:

One mask pattern is specified in step S60, this specified mask pattern is read out from the memory 12 in step S62, and the multiplier 60 ~~multiples~~ multiplies the received coded signal by the mask pattern.

Please amend the paragraph commencing on page 32, line 20 as follows:

As mentioned above, according to the present embodiment, a processing of Reed-Muller decoding by majority decision with the mask symbols removed from a Reed-Muller code using mask symbols, Reed-Muller coding the sum of this decoding result and the mask symbols, and calculating the correlation between this coded output and the original code is repeated for the number of times as the number of mask ~~symbols~~ patterns, mask ~~symbols~~ patterns corresponding to the maximum correlation are determined. The information data are decoded by using these mask symbols. Therefore, the number of checksums to be calculated for the majority decision does not increase compared to the case of Reed-Muller code decoding without using mask symbols. Consequently, a decoding apparatus that can reduce the operation load and the hardware scale can be supplied. Further, this embodiment utilizes the soft decision. The majority decision in the soft decision system is performed at a higher precision than in the hard decision system.

Please amend the paragraph commencing on page 34, line 7 as follows:

Comparing the output (expression (25)) of the multiplier [[22]] 62 and the correlation (expression (28)) between the output (expression (27)) of the Reed-Muller encoder 26 and the output (expression (22)) of the received coded signal, it is found that the expression (28) includes $d_0'C_0$ which is not included in the expression (25). If $d_0' = 1$, the expression (28) is an inversion of the expression (25) since C_0 is a code of all 1.